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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/599,705	10/05/2006	Yukihiko Minamida	09852/0205611-US0	3025

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EXAMINER	
FRANK, NOAH S	

ART UNIT	PAPER NUMBER
1796	

MAIL DATE	DELIVERY MODE
11/28/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/599,705	MINAMIDA ET AL.	
	Examiner	Art Unit	
	NOAH FRANK	1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 August 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The limitation at the end of claim 1 "In the general formula..." is in parentheses. It is unclear if this limitation is optional due to the parentheses.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-3 and 6-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Li et al. (US 6,221,978) in view of Takahashi et al. (JP 5-51573) when taken with DYNACOLL® polyester data from Degussa® .

Considering Claim 1: Li teaches a moisture curable, hot melt, polyurethane adhesive formed by a reaction between a polyisocyanate and polyols (6:14-16). Further, Li teaches the polyols to be: (A) – an aromatic/aliphatic polyester polyol (3:5-10), (B) –

an aliphatic polyether polyol having a molecular weight between 1000 and 4000 (4:65-5:1), and (CI) – an amorphous aromatic polyester polyol with the trade name DYNACOLL 7100® series having glass transition temperatures above 0ºC (5:16-27).

Li does not teach the molecular weights and glass transition temperatures of the aromatic polyester polyol (C1). However, polyester data shows the claimed T_g and molecular weight for the DYNACOLL 7100® series (Degussa polyester data, page 4).

Li does not teach the claimed long-chain aliphatic polyester polyol. However Takahashi et al. teaches moisture curable hot melt urethane adhesives comprising crystalline aliphatic polyester diol, prepared by reacting sebacic acid and 1,6-hexanediol, and an aromatic polyester diol (Abs). The aliphatic polyester diol has a molecular weight of 500 to 5000 (n=2~15) (¶0011). Li and Takahashi are analagous art because they are from the same field of endeavor, namely moisture curable hot melt polyurethane adhesives. At the time of the invention a person of ordinary skill in the art would have found it obvious to have replaced the aromatic/aliphatic polyester of Li with the crystalline aliphatic polyester, as taught by Takahashi, in order to improve the adhesion of the adhesive, caused by the combined use of the crystalline aliphatic polyester diol and the already present aromatic polyester diol (Abs of Takahashi).

Considering Claim 2: Li teaches an additional aromatic polyester polyol (CII) incorporated into the polyurethane designated a “crystalline” polyol having a molecular weight of 3500 (7:17-20) and a glass transition temperature of 0ºC (4:23-24).

Considering Claim 3: Li teaches the aliphatic polyether polyol (B) of the composition is polypropylene glycol having a molecular weight of 3000 (7:8-9).

Considering Claim 6: Li teaches the composition of the polyurethane is as follows: the aliphatic/aromatic polyester polyol (A) is between 10 and 90 parts (3:45), the aliphatic polyether (B) is between 5 and 45 parts (5:13), and the aromatic polyester polyol (CI) is between 5 and 35 parts (5:31) all based on 100 parts of the polyurethane.

Considering Claim 7: Li teaches the composition of the aromatic polyester polyol (CI) is between 5 and 35 parts (5:31) and the additional aromatic polyester polyol (CII) is between 10 and 60 parts (4:53) all based on 100 parts of the polyurethane. Therefore sums of (CI) and (CII) will be between 10 and 35 parts per 100 parts of the composition. (i.e. 15 parts of (CI) and 15 parts of (CII) = 30 parts)

Considering Claim 8: An “island like phase separated structure” would be inherent to the composition as claimed. The Office recognizes that all of the claimed effects and physical properties are not positively stated by the reference. Note however, that the reference teaches all of the claimed ingredients, process steps and process conditions and thus, the claimed effects and physical properties would implicitly be achieved by carrying out the disclosed process. If it is the applicant's position that this would not be the case: (1) evidence would need to be provided to support the applicant's position; and (2) it would be the Office's position that the application contains inadequate disclosure that there is no teaching as to how to obtain the claimed properties with only the claimed ingredients.

Considering Claim 9: Li teaches the viscosity range of the compositions at 121ºC is between 7000 and 10,000 cps (Table II).

Considering Claim 10: Li bonding a sheet or strip of the polyurethane to a substrate (7:27-33).

Claims 4-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Li et al. (US 6,221,978) in view of Takahashi et al. (JP 5-51573) when taken with DYNACOLL® polyester data from Degussa® and, as applied to claims 1-3 and 6-10 above, and further in view of Critchfield et al. (US 4,312,973).

Considering Claims 4-5: Li teaches the basic claimed composition a set forth above.

Li does not teach the endcapping of polypropylene glycol (B) with ethylene oxide. However, Critchfield teaches the incorporation of ethylene oxide into polypropylene polyols (1:46-49). Li and Critchfield are combinable because they are from the same field of endeavor, namely polyurethane elastomer synthesis. At the time of the invention a person of ordinary skill in the art would have found it obvious to have incorporated ethylene oxide, as taught by Crithcfield, in the composition of Li, in order to optimize the reactivity of the polyol and to increase the solubility of the polyol.

Response to Arguments

Applicant's arguments filed 8/27/08 have been fully considered but they are not persuasive.

In response to applicant's arguments regarding the incorporation of the crystalline aliphatic polyester diol of Takahashi into the invention of Li, regardless of the

specific method of combination, the combination still reads on the claimed invention. Because the claims use the transitional phrase “comprise”, other polyols may be present. Therefore, whether one of Li's polyols is replaced, or whether Takahashi's crystalline aliphatic polyester diol is added into Li's invention, the combination reads on the claimed invention.

Furthermore, as set forth above, Li teaches three polyols: (A) – an aromatic/aliphatic polyester polyol (3:5-10), (B) – an aliphatic polyether polyol having a molecular weight between 1000 and 4000 (4:65-5:1), and (CI) – an amorphous aromatic polyester polyol with the trade name DYNACOLL 7100® series having glass transition temperatures above 0ºC (5:16-27). The only deficiency in Li is the incorporation of the long-chain aliphatic polyester polyol. This is cured by Takahashi, which further teaches using the polyol to improve the adhesion of the adhesive, caused by the combined use of the crystalline aliphatic polyester diol and the already present aromatic polyester diol (Abs of Takahashi).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NOAH FRANK whose telephone number is (571)270-3667. The examiner can normally be reached on M-F 9-5 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on 571-272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mark Eashoo/ NF
Supervisory Patent Examiner, Art Unit 1796 11-13-08